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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/855,322	05/14/2001	Baskaran Vijayakumar	PA1742US	1111
22830	7590	10/16/2003	EXAMINER	
CARR & FERRELL LLP 2200 GENG ROAD PALO ALTO, CA 94303			BARAN, MARY C	
			ART UNIT	PAPER NUMBER
			2857	

DATE MAILED: 10/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/855,322

Applicant(s)

VIJAYAKUMAR ET AL.

Examiner

Mary Kate B Baran

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-18 is/are allowed.
- 6) ☒ Claim(s) 1,4-7,9,12 and 19 is/are rejected.
- 7) ☒ Claim(s) 2,3,8,10 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 15 September 2003 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-7, 9, 12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perry et al. (U.S. Patent No. 6,292,193) in view of Dickie (U.S. Patent No. 6,016,152).

Referring to claims 1, 9 and 19, Perry et al. teaches a method of texture filtering (see Perry et al., column 6 lines 10-15), comprising the steps of: receiving input information relating to polygon and texture data (see Perry et al., column 6 lines 2-9); and aggregating subsamples (see Perry et al., column 6 lines 20-25). Perry et al. does not teach morphing a texture reconstruction filter characteristic or an effective filter

characteristic matches the texture reconstruction filter characteristic of a texture reconstruction filter used for coarse sampling.

Dickie discloses morphing a texture reconstruction filter characteristic (see Dickie, column 3 lines 36-39 and Figure 1, "Effect 103", "Filter Modifier 105", "Selected Point 115") and that an effective filter characteristic matches the texture reconstruction filter characteristic of a texture reconstruction filter used for coarse sampling (see Dickie, column 4 line 65 – column 5 line 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Perry et al. to include the teachings of Dickie because morphing filters allows the skilled artisan to reduce artifacts caused by resampling (see Dickie, column 2 lines 45-48).

Referring to claim 4, Perry et al. further teaches the effective filter characteristic matches the characteristic of a bilinear filter (see Perry et al., column 8 lines 38-55).

Referring to claim 5, Perry teaches all the features of the claimed invention except that the effective filter characteristic matches the characteristic of a combination of a bilinear filter and a box filter.

Dickie further teaches the effective filter characteristic matches the characteristic of a combination of a bilinear filter and a box filter (see Dickie, column 5 lines 26-32 and column 4 line 65 – column 5 line 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Perry et al. to include the teachings of Dickie because using both bilinear filters and box filters as a reconstruction filter allows the skilled artisan to reduce artifacts caused by resampling (see Dickie, column 2 lines 45-48).

Referring to claim 6, Perry et al. further teaches the effective filter characteristic matches the characteristic of a combination of a linear filter between MIP levels (see Perry et al., column 8 lines 38-55) but does not teach and a combination of a bilinear filter and a box filter.

Dickie further discloses a combination of a bilinear filter and a box filter (see Dickie, column 5 lines 26-32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Perry et al. to include the teachings of Dickie because linear filters, bilinear filters and box filters reduce artifacts caused by resampling (see Dickie, column 2 lines 45-48).

Referring to claims 7 and 12, Perry teaches the features of the claimed invention except that the morphing of the texture reconstruction filter characteristic is performed in a continuous manner.

Dickie further discloses that the morphing of the texture reconstruction filter characteristic (see Dickie, column 3 lines 36-39 and Figure 1, "Effect 103", "Filter

Modifier 105", "Selected Point 115") is performed in a continuous manner (see Dickie, column 4 lines 22-25).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Perry et al. to include the teachings of Dickie, because continuous reconstruction filtering allows the skilled artisan to reduce artifacts in continuously presented images (see Dickie, column 2 lines 45-48).

Allowable Subject Matter

3. Claims 2, 3, 8, 10 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claims 13-18 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter:

The limitations which recite: input information relating to a degree of warping per texture coordinate, input information relating to a rate of sampling of the polygon data, and a value $\beta = \min(\delta \cdot (n-1/n), 1.0)$ are not found taught or suggested in the prior art of record.

Response to Arguments

6. Applicant's arguments filed 15 September 2003 pertaining to claims 1, 4-7, 9, 12 and 19 have been fully considered but are not persuasive.

Applicant argues that Dickie does not teach morphing a texture reconstruction filter characteristic based upon input information related to polygon and texture data. However Dickie does teach morphing a texture reconstruction filter characteristic based on input information (see Dickie, column 3 lines 36-39 and Figure 1, "Effect 103", "Filter Modifier 105", "Selected Point 115"). The input information which is used to morph, or modify, the filter characteristic is a preselected filter, a selected pixel in the destination image, and data indicating the effect to be applied to the source image. It is the Examiner's position that the phrase "selected pixel in the destination image" has the same meaning as the claimed phrase "polygon data", and that the phrase "data indicating the effect" has the same meaning as the claimed phrase "texture data".

Polygon data may be any data related to any type of "polygon" or any data extrapolated from a polygon and therefore a pixel selected from the destination image constitutes "polygon data" (see Dickie, column 3 lines 36-39 and Figure 3, "Destination Image 205"). Similarly, the texture data may be any data related to a "texture", such as rippling, warping or pinching (see Dickie, column 4 lines 25-35). Therefore, based on polygon (see Dickie, column 3 lines 36-39) and texture data (see Dickie, column 3 lines 36-39) a texture reconstruction filter characteristic is morphed (see Dickie, column 3 lines 36-39 and Figure 1, "Effect 103", "Filter Modifier 105", "Selected Point 115").

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Kate B Baran whose telephone number is (703) 305-4474. The examiner can normally be reached on Monday - Friday from 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S Hoff can be reached on (703) 308-1677. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

MKB


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